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Citation for published version:

Cowie, C & Pande, A 2017, 'Phonetic convergence towards American English variants by Indian agents in international service encounters', *English World-Wide. A Journal of Varieties of English*, vol. 38, no. 3, pp. 244-274. <https://doi.org/10.1075/eww.38.3.01cow>

Digital Object Identifier (DOI):

[10.1075/eww.38.3.01cow](https://doi.org/10.1075/eww.38.3.01cow)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

English World-Wide. A Journal of Varieties of English

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Phonetic convergence towards American English variants by Indian agents in international service encounters

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ABSTRACT

Outsourced voice-based services (call centres are a typical example) are a situation in which linguistic accommodation might be expected to occur, especially on the part of an agent who is providing a service to a customer or client. Indian agents are of particular interest because the customer accent typically does not have a place in that agent's repertoire. This presents an opportunity to test whether exposure to the customer accent through telephone work promotes phonetic convergence and/or whether other factors are implicated in convergence. In this maptask experiment, sixteen IT workers from Pune (half of whom regularly spoke to American colleagues on the telephone) gave directions to American followers. Of the two variables tested, there was little evidence of convergence in the more salient variable, postvocalic /r/, but considerable evidence of low level shadowing in the less salient variable, the BATH vowel. Neither this low level convergence, nor the few cases of more profound convergence, depended on exposure alone.

Keywords: Indian English; American English; linguistic accommodation; phonetic convergence; call centres; outsourcing; maptask experiment; postvocalic /r/; BATH vowel

1. Introduction

It is fifteen years since the first publicity around the outsourcing of voice-based services to India, and customers in other English-speaking countries are now very familiar with customer service representatives (CSRs) in India. India's revenue from outsourced IT and ITES (Information Technology Enabled Services) has continued to grow, and so too its labour force in these sectors (Upadhyia and Vasavi 2008:13, Nadeem 2011:35-37, Mirchandani 2012:2). This is despite an early "backlash" in the US following job losses (Nadeem 2011:103) and high profile cases of call centres in banking, insurance, and telecoms returning to the US and UK. Such developments have been attributed to "dissatisfaction with accents" (Vaidyanathan 2011) but there are other factors, most notably the challenge of recruiting suitable candidates (Nadeem 2011:122; Graddol 2010:41), and the attrition of call centre staff due to poor working conditions and lack of promotion (Nadeem 2011:123, Upadhyia and Vasavi 2008:17). Furthermore, costs in India have risen compared to countries in South East Asia (McGeown 2011); and costs in the US and UK fell in the post-2008 recession. The putative consequences of Indian CSRs' "accents" should thus be treated with caution.

Management practices which encouraged "locational masking" along with a telephone identity and adoption of a different accent have been well described (Poster 2007, Nadeem 2011:7,56; Mirchandani 2012:5). These were largely discontinued around 2005, but this meant that Indian CSRs who revealed their location were subject to abuse from

¹ Acknowledgements: The authors are grateful to the participants who gave up their time for this study, and to the manager at HealthIT for his support. We have benefited greatly from the feedback and advice of colleagues, and in particular we wish to thank Ellen Bard, Lauren Hall-Lew, James Kirby, Sonal Kulkarni, Roger Lass, Warren Maguire, Lalita Murty, Michael Ramsammy, Tatiana Reid, Barbora Skarabela, Jane Stuart-Smith, and Caroline Wiltshire.

customers, which, according to Mirchandani, was frequently driven by protectionism but often took the form of comments on CSRs' language deficiency or unintelligibility (2012:55). CSRs are typically advised to cultivate a "neutral" accent, but this is a construct that can be interpreted rather differently by CSRs, trainers, managers and business leaders in India and abroad (Cowie 2007).

In the sociology of this situation it is common to present the adoption or lack of adoption of a Western, usually American, accent as a binary: success or failure; co-operation or subversion. It is unlikely however, even in conditions of extreme subterfuge, that CSRs could or would appropriate another accent in its entirety. It may be that what are referred to as "call centre accents" in the industry (Cowie 2007, 2010) are manifestations of partial success in imitation. But they may also represent linguistic accommodation, which is present to some extent in all interactions, and especially to be expected in service encounters.

In this article we present the results of a baseline study to determine whether, in a relatively neutral international call, Indian service personnel will adopt some features of American English (AmE) without pressure or explicit instruction to do so; and to what extent they will adopt those features. In our experiment 16 professionals from an Indian IT company in Pune are recorded speaking to an American caller on the phone. Half of them already do this on a regular basis in their work (we call them EXP group for "exposure"), and the other half do not (the NOTEXP group). In the control, the same 16 Indian professionals speak to Indian callers (whom they do not know).

The Indian company used in this study (we use the pseudonym "HealthIT") is a subsidiary of a conglomerate in the US which provides staffing for healthcare. HealthIT provides IT and ITES for the American group. Although it is call centres that have received the greatest publicity, the regular telephone interaction of the ITES staff of HealthIT with American colleagues is a common type of India-US voice-based workplace interaction (Upadhyia and Vasavi 2008:15). Once we know more about the extent to which this unusual dialect contact inclines an agent to accommodate in an experimental context, we will have a basis for studying convergence towards AmE in other interactions, where the task is different or the expectations of the CSR are different.

2. Phonetic convergence, sociolinguistic variables and accommodation theory

Despite the obvious applicability of Speech Accommodation Theory (SAT) to commercial settings, few of the early studies in this field directly investigated the speech of sales or business personnel. The exception is Coupland's (1984) "fine-grained analysis of a travel agent's convergence to her many clients of varying socioeconomic status and education" (Giles, Coupland and Coupland 1991:7, 11).

The key finding of SAT is that the speaker increases his or her attractiveness, supportiveness, and interpersonal involvement as well as intelligibility, by converging towards their interlocutor (Giles, Coupland and Coupland 1991:18-19). CSRs are obvious candidates for convergence, not only in their role of salesperson but in their performance of emotional labour (Cameron 2000: 81-85; Taylor and Bain 2000, Upadhyia and Vasavi 2008:30; Mirchandani 2012:7). Our participants may not be subject to the same pressures as CSRs, but we believe that they are still likely to be motivated to converge in their regular interactions with American colleagues given their less powerful position in the workplace.

Research on speech accommodation by social psychologists has measured convergence in diverse speech phenomena such as language choice, speech rate, utterance length, pausing, and non-verbal phenomena such as smiling, gesture and gaze (Beebe and Giles 1984; Giles, Coupland and Coupland 1991). Sociolinguists continue to use the

phonological variable as the basis for exploring accommodation between speakers in interview data. In a sense, all studies of dialect shift or new dialect acquisition imply long term accommodation based on repeated acts of short term accommodation. This principle long established by Labov (1976, 1984) and Trudgill (1986) is discussed in Kerswill (2001:680), Bigham (2010:195), and Pardo (2006:2384).

Nevertheless, not that many studies of dialect shift are explicitly framed as studies of accommodation. Watt, Llamas, and Johnson's (2010) study stands out in that, like Coupland (1984), they wish to provide a snapshot of accommodation in which the speech of an individual (Scottish female interviewer) with different interlocutors (men from the border region between Scotland and England) is contrasted. In the current study, we aim to provide a snapshot of accommodation in the speech of Indian IT workers with American interlocutors on the one hand, fellow Indian interlocutors on the other.

Like Watt et al (2010), and Coupland (1984) we will use the sociolinguistic variable as a means of investigating accommodation. We are aware that, in doing so, we may be measuring a speaker's accommodation to an imagined group norm rather than his or her imitation of the speech of the interlocutor. This phenomenon has been termed psychological accommodation, or subjective accommodation (Giles, Coupland and Coupland 1991:14, 28; Beebe and Giles 1984:9). Put differently, we are investigating a dimension of intergroup salience rather than interpersonal salience (Watson & Gallois 2004 in Watt et al 2010: 272). If we find evidence of this sort of convergence in our experiment, we hypothesize that it will be demonstrated by members of our EXP group, as they are the ones that have had this (very specialised) contact with speakers of AmE and thus have (perceptive or productive) knowledge of the group norm. We assume that members of the NOTEXP group have *not* had sustained contact with AmE, but see the discussion in section 4 below.

Some recent studies of phonetic convergence do not make use of sociolinguistic variables, and are therefore much more likely to measure the speaker's accommodation to a particular interlocutor rather than to a group norm. Jennifer Pardo (2006) investigates phonetic convergence in "ordinary" communication (2006:2390), through perceived increase in segmental and suprasegmental similarity (2006:2384). Pardo is extending studies in experimental psychology such as Goldinger (1998) which have found lexical and sublexical imitation, or "shadowing" within and between talkers in the laboratory (2006:2384). In Pardo's study similarity is detected among utterances produced **after** the task (in context sentences) rather than utterances produced within seconds of each other. Pardo finds that this convergence is affected by gender or interactional role (2006:2390). The the speech of all of our participants, even those in the NOTEXP group, may involve some amount of this inevitable phonetic convergence, within or outside of the relevant variables.

Bigham (2010) points out that Trudgill's mechanistic notion of accommodation in dialect contact is frequency-based, but that Giles and Coupland's accommodation theory is "inherently attitude based" (2010:195). Bigham does not believe that either kind of explanation should be abandoned however:

"while it appears to be true that accommodation towards the linguistic forms of one's most frequent interlocutors is inevitable, the particular attitudes we have regarding our interlocutors, their speech, and our positions within the developing speech community constrain and guide those accommodations in specific ways" (2010: 196).

Likewise, in this study, we have built in a factor of exposure, but we are interested in how the attitudes of our participants constrain and guide their convergence towards their interlocutor.

The investigation of more than one sociolinguistic variable allows researchers to compare the degree of convergence in different variables. Watt, Llamas, and Johnson (2010)

find that their interviewer accommodates to her interviewees' speech with variables that are salient markers of Scottish identity such as pre-vocalic taps, yet at the same time does not adopt the coda-/r/ realization of her interviewees which carries "extra-strong salience" (Trudgill 1986:37 in Watt et al 2010:283).

Two variables are investigated in the current study: the vowel in the BATH lexical set which is fronted in AmE and central or back in IndE; and postvocalic /r/, which is an approximant in American English (AmE) and is trilled/tapped or absent in IndE. If either of these variables carries "extra-strong salience", it is postvocalic /r/, the AmE pronunciation of which, unlike BATH vowels, receives attention in training manuals for Indian call centres (Cowie 2007:321; Cowie 2010:38, 42, Mirchandani 2012:46). In Labov's terms postvocalic /r/ in this context may be a stereotype, but BATH vowels are not even markers, only indicators (1972, 1994). Cowie and Murty (2010) found that four out of ten call centre trainees in Bangalore showed use of postvocalic /r/ in a training call with AmE speaker, where they had not used it in an informal context. This appeared to be related to sections of a script, but could not be described as lexicalized.

Our selection of variables was primarily driven by the need for a clearly identifiable Indian variant and American variant. If we measured accommodation in a variable such as the aspiration of voiceless plosives (as Sharma 2005 does for Indian immigrants to the US), the international nature of the workplace context of this experiment means that the aspiration of those voiceless plosives could be read not exclusively as convergence to an American norm, but possibly a British one,² or even an elite Indian one (Sailaja 2009:18, 23). It is still possible that use of the distinctively American variants by our participants is simply their foreigner-directed speech for use with any non-Indian. This would be an interesting finding in itself. To know this for certain would require a comparative study, but for the moment we are treating that possibility in the same category as accommodation to a group norm (albeit a more vague one) as opposed to accommodation to an individual interlocutor. Foreigner-directed speech is more of an issue for call centre workers who are likely to have dealt with a wider range of customers. We have ensured too that although the interlocutors change, the task is identical in the (American) experimental condition and the (Indian) control, so that we are measuring convergence in that speaker rather than his or her self-presentation in a formal setting (Beebe and Giles 1984:11).

3. Contact with American English

Although, like Watt et al (2010) and Coupland (1984), we are interested in the shifts made by an individual in communication with different interlocutors, our study is, in another respect, more similar to studies of new or second dialect acquisition (Shockey 1984; Nycz 2011) in that the target variety (AmE) is not present in the existing repertoire of the speaker. Whereas studies of second dialect acquisition typically concern migrants, here we are dealing with an exceptional case of contact through work brought about through the global outsourcing of voice-based services. In his 1984 study, Coupland wondered if it was possible to find "cross-national accommodation" (Coupland 1984: 52) in contexts other than migration. Even in

² This is not to say that convergence to BrE among CSRs and IT workers in India is not worthy of study, or should not serve as a comparison to this study. A larger study might look at these features **as well as** features that have an American variant. We have started with AmE "customers" because the US is still the major client for voice-based services in India accounting for 70% of business (Bardhan and Kroll 2003 cited in Nadeem 2011: 25). In a study of convergence to BrE, there are more considerable methodological challenges to overcome given the more extensive overlap between BrE and elite IndE.

1991 Giles, Coupland and Coupland could give only tourism and international conferences or business meetings as examples (1991:15).

The EXP participants in our study spend between one and ten hours per week on the telephone to the US. In retrospect a more fine-grained measure of contact would have been preferable, but in an effort to avoid alerting volunteers to the aims of our study, we asked the CEO of the company to divide them into the EXP and NOTEXP groups. We can say with confidence that our NOTEXP group do not have contact with speakers of AmE at work. We cannot say with certainty that they have no contact with AmE outside of work. Access to American media has become increasingly accessible through multiple platforms (Butcher 2003). Media consumption is notoriously hard to measure but we try to monitor this in our post-task questionnaire. Yet American accents are not just on youtube. There is an increasing chance of encountering them among Indians returning from the diaspora (Poster 2007); and travel to the diaspora is common among middle class Indians.

In order to ensure comparable proficiency in English, we have taken care to include only participants who have had English medium education at secondary school, which typically implies near-native proficiency (Sahgal and Agnihotri 1988; Sailaja 2009), an accent that is identifiably Indian and some use of IndE grammatical features at least in informal conversation. All participants also have a tertiary qualification from an English medium institution. IT and ITES workers in India have been described as “young, well-educated, urban” as well as “Hindu and upper caste” (Nadeem 2011:35). They are likely to have attended English-medium, often private schools. IT workers usually have more education than ITES workers, and are more likely to have attended elite private or “convent” schools (2011:200) but see our discussion in section 9.

Everyday English usage, a component of proficiency along with education and exposure (Sharma 2005) was not as uniform: Ten participants reported 5-10 hours pd (six EXP and four NOTEXP); five reported 0-5 hours pd (all except one are NOTEXP) and only one reported 10-15 hours pd (EXP). Judging by the self-reporting of some of these participants, English is not always the lingua franca of the office outside of telephone work. Nevertheless, it has been demonstrated that even less proficient speakers of English can gain sociolinguistic mastery in an L2 (Beebe and Giles 1984; Adamson and Regan 1991). Sharma (2005) shows that relatively low proficiency speakers of English from India who have migrated to the US demonstrate AmE phonological features if they are strongly motivated to integrate. We aim to investigate whether there are such speakers in the present study.

4. Methodology

Participants were recruited by the second author who spent time working at HealthIT as a technical writer. The experiment was presented as an opportunity to help her in her research (Pande 2010) and as a useful training exercise for workplace communication. They were aged between 18 and 35 and as indicated above, they all attended to English medium secondary schools. Five of the sixteen participants were women. Gender or gender dyads are not investigated in this study. Half of the participants were L1 speakers of Marathi, the official language of the state of Maharashtra where Pune is situated. The range of L1s demonstrated by the other half is typical of an urban Indian setting³. L1 is not investigated in this study but there are some issues that pertain to postvocalic /r/ discussed in section 6. The separation into two groups on the basis of exposure in the workplace has been described in section 3.

Each participant had one call with an American interlocutor and one call with a

³ Bengali (1), Gujarati (1), Hindi (2), Punjabi (1), Sindhi (1), Tamil (2)

speaker of IndE that they did not know (the order was alternated for participants). The eight AmE speakers⁴ (7 female, 1 male) were students and staff recruited at the University of Edinburgh and they were paid at an hourly rate. This does raise the question of whether the American speakers had adjusted their speech due to spending time in the UK, or even whether they accommodated to the Indian participants (Zuengler 1991:234-237). Yet if our AmE speakers were deviating from their pronunciation with AmE speakers they would still be distinct from the Indian participants, and our interest in this paper is in whether the IndE speakers are shifting, relative to **their** speech with IndE interlocutors. Nevertheless an indication of the position of the AmE speakers' BATH vowels is shown in section 5 and their use of post-vocalic /r/ is confirmed in section 6. The non-participating Indian interlocutors were social contacts of the second author recruited outside of HealthIT.

For the American-Indian conversations, the speakers of AmE were recorded as they spoke on the telephone with a headset microphone and Zoom portable recorder. The Indian participants were recorded with Microtech recording devices and close-talking microphones as they spoke on the telephone, to the AmE speakers in Edinburgh and to the IndE control speakers in Pune.

We needed to create a situation with spontaneous yet structured interaction. Like other studies with this aim (Lindemann 2002; Pardo 2006; Scola 2009) we used a "maptask" experiment in which one interlocutor gives directions for a given route around the other interlocutor's blank map. Our maps (appendixed) are adaptations of the original maptasks designed by Anderson et al (1991). As in those tasks, the landmark map pairs are not identically situated, and these differences create problems for the interlocutors to solve. Our 16 Indian participants were the instruction giver in both of their dialogues because this matched at least one work role that we wanted to study, that of providing information, but this is not to say that other roles, more similar to that of receiver (who typically checks information), should not be explored in future studies. Pardo found that on the whole "givers converged to receivers more than receivers converged to givers" (2006:2387), although this was more so in female-female pairs than male-male pairs.

The use of the chosen variables in the landmarks ensured sufficient tokens of the variables and a comparable set of lexemes. There are 12 landmarks with a BATH vowel and 12 landmarks with postvocalic /r/, given in Table 4.1. Since it has been well established that word frequency plays a role in shadowing, with low frequency words more likely to be imitated (Goldinger 1998: 251 cited in Pardo 2006:2389), we have used both low frequency (LF) and high frequency (HF) landmarks based on the British National Corpus (Leech and Rayson 2014)⁵. More details of the variables and their measurement are given in sections 5 and 6. We did not specifically investigate convergence in flapping, but we did introduce two landmarks (*granny's cottage* and *pottery studio*) to test if there was any convergence in this feature (see the discussion in section 9).

Table 4.1 Landmarks on map pairs showing phonological variable and word frequency

Variable	Map Pair A	Frequency	Map Pair B	Frequency
Postvocalic /r/	Start <u>here</u>	HF	Start <u>here</u>	HF
	Men working	HF	Girls chatting	HF
	Pool of water	HF	Lost exam paper	HF
	Wooden cart	LF	Smart students	LF
	Burning wood	LF	Rehearsal room	LF

⁴ One was in fact Canadian but this speaker was used as the variables in the study were not affected.

⁵ "Auntie" was adjusted from LF to HF as it is a much more common expression in IndE.

	Perimeter fence	LF	Litterbin	LF
BATH vowel	Chance mountain	HF	Auntie's café	HF
	Half-moon	HF	Staff room	HF
	Last signpost	HF	Biology class	HF
	Prancing pony	LF	Advanced lesson	LF
	Mine shaft	LF	Craft exhibition	LF
	Blast site	LF	Great cast	LF

Two map pairs were used in alternating order i.e. no participants gave directions around the same map twice. Before the phone call, the Indian instruction-giving participant read out a wordlist consisting of the landmarks in the map pair which was recorded. In the phone call the interlocutors were briefly introduced by the researchers, and then the instruction follower read out the same list of landmarks on the map to prime the instruction giver. This introduces the following possibilities: 1) shadowing in a single token after priming 2) shadowing of single tokens later in the dialogue 3) convergence at the level of lexeme 4) convergence at the level of the phonological variable. There is much to indicate that even just with a small amount of priming, participants changed aspects of their speech on other linguistic levels. The presence of an IndE interlocutor prompted IndE lexis e.g. intransitive *reach* with the sense of *arrive* (Schneider 2007:170); IndE syntax e.g. non-initial existential “there” (Lange 2012: 93-117); IndE discourse markers such as *hahn* “yes” and *na* (Lange 2012:195-230).

The co-operative nature of the task is consistent with our aim to create a context which promotes accommodation without forcing it. Yet it has been shown that negative attitudes towards a group can decrease co-operation on a map task (Lindemann 2002). As concluded in section 3, we must consider the interaction that attitude has with exposure in our understanding of accommodation. Here attitudes towards the group (here, speakers of AmE) are elicited by two post-task questionnaires. The first asks about the participant's experience of the task and their partner. In the first questionnaire each participant rated their two partners on a 6-point likert scale for: overall success of the transaction, understandability, friendliness, politeness, co-operativeness, correctness (of English), and pleasantness (of English), yielding a 42 composite score. The second questionnaire asks about their broader orientation to the US. We were able to interview five of the participants in more depth, and these interviews greatly informed our analysis.

5. Variable: BATH vowel

The vowel in the BATH lexical set (*staff, brass, ask, dance, sample, calf*) is one of the most well-observed points of distinction between the major national dialects of English. It is given as /ɑ:/ in RP and Southern British English (Wells 1982), but the TRAP/BATH split did not take place in Northern British English which has a short front vowel for both. AmE inherited the system prior to the TRAP/BATH split, and /æ/ is typically assigned to both (Wells 1982, Labov, Ash and Boberg 2006, Piercy 2011). The major national dialects agree on membership of the BATH lexical set although there is variability in borrowed words such as *pasta* (Boberg 2009:355).

There is uniformity in the degree to which following consonants affect the height of /æ/ in AmE. The usual order is n>d>g (Labov, Ash and Boberg 2006: 181). There are however well-known exceptions to this pattern. In New York City and the Mid-Atlantic States, /æ/ that is historically part of the British broad-a BATH set is tensed and nasals are less likely to raise, but in the “nasal system” that predominates in New England and Midland cities “/æ/ is raised and fronted before any nasal consonant in a separate distribution from

other /æ/” (ibid.). Uniquely in New England some items of the British class are said to have a back vowel such as *half*, *aunt*, *laugh* (2006:174). The only item produced with a noticeably more back vowel by some of our AmE speakers was the word *auntie*. We have included the data on this landmark but the results should be treated with some caution.

There is considerable variability in the vowel given for the BATH lexical set for Indian English, but it is likely that the vowel is relatively central compared to the back BrE vowel and front AmE vowel. The influential CIEFL (1972) description of General Indian English gives the Open vowels as “Front æ Central a: (ɑ) Back ɒ(ɔ)” (cited in Wiltshire and Harnsberger 2006:93). If the only back vowel is a rounded one this makes the BATH vowel relatively central. Wells gives the more central /a/ for Indian English BATH (1982:626). Sailaja likewise gives /a:/ for both the BATH and START lexical sets (2009:25). Nihalani et al (2004) give /a:/ for the entries in their pronouncing dictionary explicitly contrasting it with a BrE /ɑ/. A more RP-like [ɑ:] is to be found in Mesthrie and Bhatt (2008:123) and Gargesh (2004:994). Although the consensus is that the IndE BATH vowel is central to back, it is noteworthy that Wells says “sometimes /æ/” in a footnote (1982:626), and Mahboob and Ahmar give the vowel in BATH as [ɑ:] or [æ] in Pakistani English (2004:1009), all of which highlights a need for further research on the membership of this set.

Wiltshire and Harnsberger’s acoustic analysis shows that the target open back vowel of *father* is more central and raised for Tamil and Gujarati speakers of English than the AmE target back vowel (2006:98). Maxwell and Fletcher’s Hindi and Punjabi speakers however produce a “distinct open back vowel [ɑ:]” in START (2009:63). Furthermore, this START vowel is distinguished from STRUT in terms of duration (2009:64). The design of the current study has not permitted measurements of duration⁶ but duration measurements of IndE BATH vowels would clearly be informative.

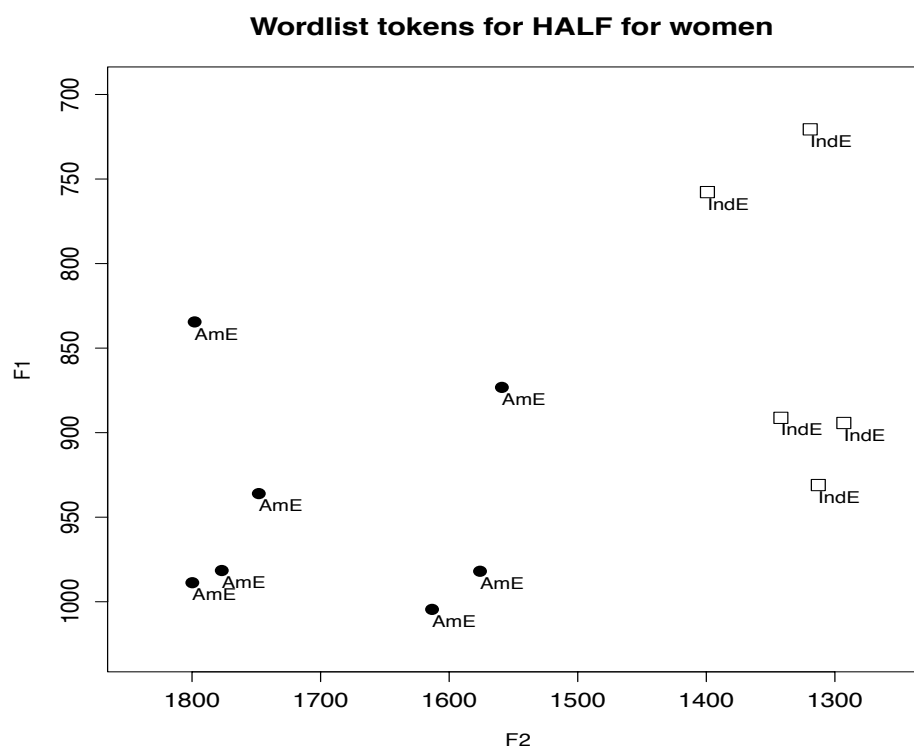
For the dialogues, F1 and F2 of the BATH vowel were measured for every token of a landmark with that variable. F1 and F2 measurements were taken at the temporal midpoint of each vowel (Clopper, Pisoni, & de Jong 2005). Formants were analyzed using the auto-formant tracking of PRAAT. We made use of the PRAAT automated midpoint, but all formant measurements were also visually inspected for accuracy. In addition to the BATH tokens, F1 and F2 were also measured for the tokens of DRESS, TRAP, FLEECE, COOL, GOOSE (not all from landmarks) for purposes of normalisation which was carried out with the Watt and Fabricius (2002) geometric normalization technique. Thus normalized hertz values reported from this routine are in “WF units” (cf. Bigham 2010:200).

To illustrate the difference between the typical values of the BATH vowel for our IndE speakers and their AmE interlocutors, Figure 5.1 shows F1 and F2 for one token of *half* read out in the pre-dialogue wordlists, by each female speaker⁷. The results discussion in section 7 however will focus on the differences in the values for the IndE participants across their two dialogues. Note that among the IndE speakers there is much less uniformity in F1 than in F2. We should be cautious therefore of interpreting raising of BATH vowels without fronting in the experiment as a sign of convergence.

Figure 5.1. Wordlist tokens of HALF for women

⁶ It is not considered advisable to compare the duration of front and back vowels as duration is not independent of F2 and F2 should be kept constant (Piercy 2011:158). Furthermore, duration measurements are not recommended for vowels produced in naturalistic speech but rather for wordlists because of the effect that style has on length (Di Paolo, Yaeger-Dror and Wassink 2011:98).

⁷ Only female speakers are shown here as the AmE vowels are not normalized.



6. Variable: Postvocalic /r/

American coda /r/ has been phonetically described as a retroflex approximant (Olive, Greenwood and Coleman 1993; Labov Ash and Boberg 2006:47). We confirmed auditorally that our American interlocutors used this feature in their production of the landmarks, and for one American speaker we checked that her /r/ met the criteria for our classification of AmE /r/ described below.

The standard account of IndE is that that an elite minority of speakers of Indian English are non-rhotic, and that the majority are rhotic (Bansal 1990; Kachru 1994; Gargesh 2004; Nihalani et al 2004:209; Sailaja 2009:19). Among these writers only Gargesh (2004:998) specifies that the coda /r/ of this majority is “trilled”. In a rare study of sociolinguistic change in IndE (set in Delhi), Sahgal and Agnihotri report a shift from “flapped or a trilled /r/ in all positions” to null coda /r/ (1988: 54). The prestige non-rhotic pronunciation, correlated with level of education, is shown to increase among younger speakers and female speakers. R-pronunciation is “highly stigmatized among the prestigious school informants” and “figures prominently in their imitation of the vernacular-medium school informants”. The authors even speculate that “tomorrow’s IndE will become r-less” (1988:57-58).

Maxwell and Fletcher find considerable inconsistency in the production of

“postvocalic [r]” (quality unspecified) among wordlist repetitions in their study of the vowels of Hindi and Punjabi speakers (2009:64). Wiltshire and Harnsberger’s study of five Gujarati L1 and five Tamil L1 speakers (all who have learnt English from an early age) shows only 16% coda /r/ overall (2006: 5). Our participants, who have a similar educational background, are, on the whole, in line with those in the Wiltshire and Harnsberger study. Where coda /r/ does occur, it takes the form of taps for Gujarati speakers of English and approximants for Tamil speakers of English. In our study, we have two Tamil speakers but only one produces approximants (discussed in section 8). There are no other speakers of Dravidian languages.

In this study trill /r/ and null /r/ are treated as the Indian variants, and approximant postvocalic /r/ as the American variant (following Sharma 2005). Landmarks which ended in /r/ but followed by a vowel were discounted. Because even trained phoneticians’ judgements of /r/ can be inconsistent (Lawson et al 2011:75-76; Stuart-Smith 2007) we used an acoustic method to identify approximant /r/, namely visually inspecting a simultaneous lowering of F3 and raising of F2 used in Chand (2010:9) after Knight, Dalcher and Jones (2007). F3 and F2 have to converge for an approximant /r/ to be recorded, or, in the cases of rhotacized schwa, there should be a visible if not complete convergence. Trills and taps are visually identified through the their single or multiple intervals of weakened formants (Lawson, Stuart-Smith, Scobbie, Yaeger-Dror and MacLagan 2011:78).

In Chand’s (2010) study of 29 Hindi-English bilinguals whose production of postvocalic /r/ consists of 55% approximant, 8% trill, and 38% null. Grouping the two kinds of /r/ together, Chand finds that the middle generation (probably the generation that were the young people of the Sahgal and Agnihotri 1988 study) are predominantly non-rhotic, but that their children are now more rhotic, like their grandparents. Chand attributes this development partly to a decline in the use of RP as an external norm in education, and an increase in local IndE norms. But it is unclear whether she views approximant /r/ as a local variant when she says that “these youth have been educated after the opening of India’s economic borders, within which rhotic and non-rhotic media input (through TV, movies, radio and the internet) is abundant” (2010:31).

What is very clear to us from our data is that there is not a reliable way of detecting /r/ retroflex approximant /r/ before other retroflex consonants. For a user of retroflexes, items such as *cart* and *cottage* (we contrasted these for one participant, Shruti) look very similar on a spectrogram (Thomas 2011:105). This effect was present in three of our /r/ landmarks, namely *start smart cart*, and so we had to discount these tokens. We did not measure the use of retroflex /t/ and /d/ but auditorally they occur widely in our data (Sahgal and Agnihotri 1988).

7. Results: BATH vowel

Unpaired t-tests show that F2 differs significantly for Addressee ($p = 0.028$) as does F1 ($p < 0.000$). For the reasons given above, we are treating this result for F2 as evidence of convergence. The F1 and F2 results viewed together (raising as well as fronting to /ae/) can be considered evidence for convergence. Judging from the considerable F1 range of the wordlist items (Figure 5.1.), we should be cautious about treating raising *without* fronting as convergence to AmE. Fig. 7.1 and Table 7.1 give the F1 and F2 means for the BATH vowels, distinguished by Addressee and Exposure.

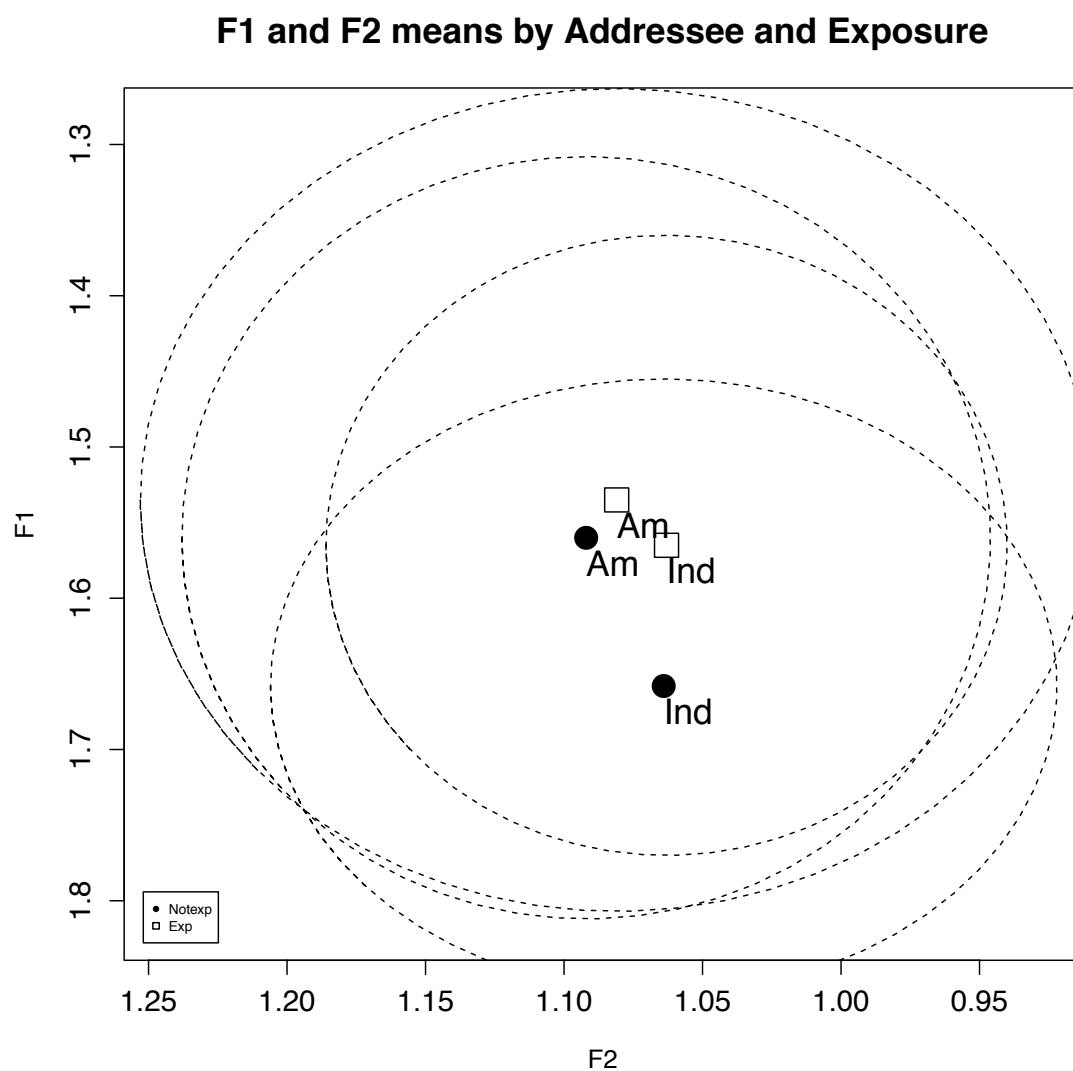


Fig 7.1. F1 and F2 means by Addressee and Exposure (EXP indicated by squares and NOTEXP by dots)

Table 7.1 F1 and F2 means for all BATH vowel tokens

	Exposure	Addressee	Mean (WFU)	Std. Deviation	n
F1	Exp	Am	1.535	.272	173

		Ind	1.565	.205	227
	Notexp	Am	1.556	.252	158
		Ind	1.658	.203	203
F2	Exp	Am	1.081	.172	173
		Ind	1.063	.122	227
	Notexp	Am	1.092	.146	158
		Ind	1.064	.142	203

We ran a mixed models regression with rbrul (Johnson 2009) for first F1 and then F2 as the dependent variable, with Speaker as a random intercept (Tagliamonte and Baayen 2012) and Addressee, Exposure, Word Frequency and Following consonant as fixed factors. As we expected, Addressee was significant for both F1 ($p < 0.000$) and F2 ($p = 0.007$). We were not interested in the effect of Exposure on F1 and F2 overall, but only in whether Exposure interacts with Addressee. i.e. are those are exposed to AmE in the workplace more likely to converge?

The raising and fronting of the vowels with the American Addressee was present in both the EXP and NOTEXP groups. However, as Table 7.1 confirms, there was no significant interaction between Addressee and Exposure, and it is the NOTEXP group that does more raising and fronting. However, for both the EXP and NOTEXP groups, there is greater standard deviation in the American dialogues. As our Exposure factor does not turn out to be so useful, it is especially important to explore differences at the individual level. In order to determine how Addressee affected individual speakers differently, we ranked speakers on four measures (Table 7.2):

- (1) Difference in F2 means by Addressee with the greatest difference ranked first (assuming AmE F2 is higher)
- (2) Difference in F1 means by Addressee with the greatest difference ranked first (assuming AmE F1 is lower)
- (3) Euclidean distance (ED) between a speaker's mean vowel for BATH and their mean vowel for DRESS (Fabricius 2007, Di Paolo and Yaeger-Dror 2011:104). Speakers were ranked according to the difference between their ED for the American Addressee and their ED for the Indian Addressee with the greatest difference ranked first.
- (4) Individual MANOVAs⁸ were run for each speaker using F1 and F2 as the dependent variables and Addressee as the independent variable. Pillai scores were then ranked with the values closest to 1 at the top reflecting the greatest degree of dispersion (Hay, Warren and Draeger 2006; Johnson and Gorman 2013).

Table 7.2. The distinctions that individual speakers make for Addressee

Mean F2 diff.	Mean F1diff.	Difference in ED	Pillai scores
Ashish .15	Nalini .69	Ketan 0.24	Nalini .83
Ketan .12	Monali .16	Amit 0.23	Tarun .318
Tarun .08	Shruti .13	Ravi 0.22	Monali .305
Amit .07	Ketan .11	Monali 0.22	Amit .223
Yogesh .07	Arjun .1	Amol 0.19	Ashish .22
Monali .06	Yogesh .1	Ashish 0.17	Ketan .155
Ravi .06	Amit .1	Madhuri 0.1	Yogesh .154

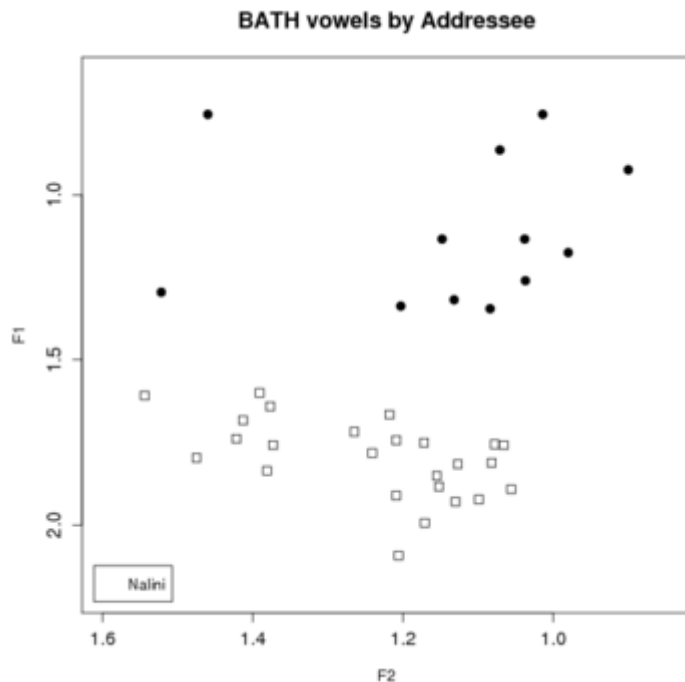
⁸ Individual MANOVAS on their own are not ideal for this data as speakers do not use the same number of BATH tokens in each dialogue, and the number of tokens per MANOVA are low.

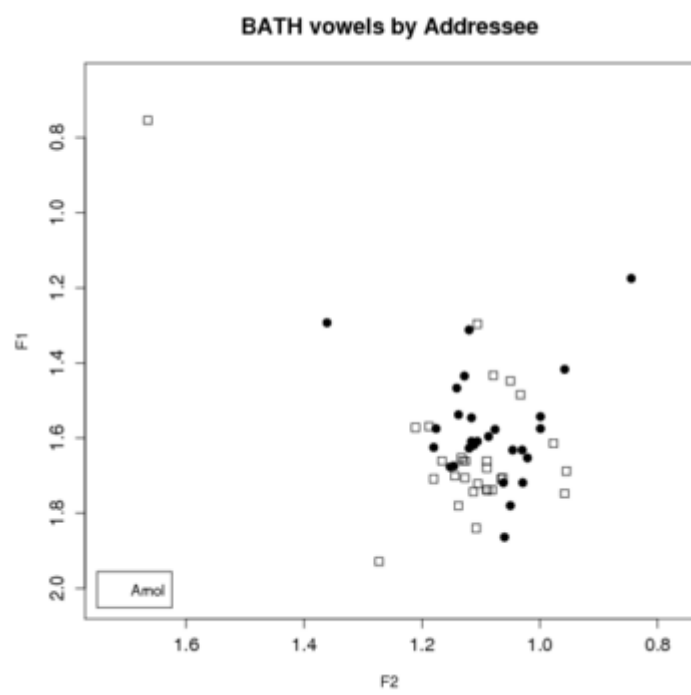
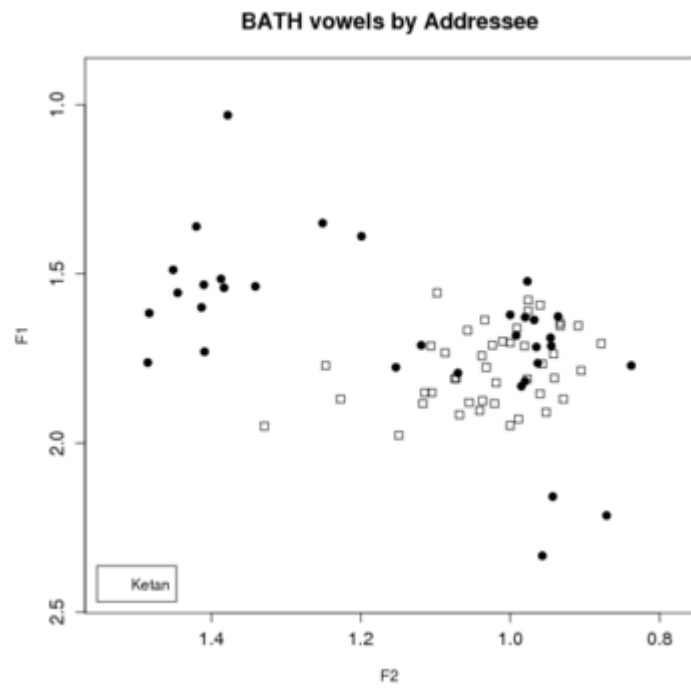
Pallavi .05	Madhuri 0.08	Nalini .08	Arjun .152
Shruti .02	Ravi 0.07	Yogesh .04	Kamal .145
Madhuri .02	Ashish .06	Arjun .04	Ravi .142
Sumit -.01	Amol .06	Tarun 0.02	Shruti .095
Amol -.02	Pallavi .003	Sachin -.09	Sumit .094
Arjun -.05	Kamal -.01	Kamal -.25	Pallavi .071
Sachin -.07	Sachin -.03	Sumit -.34	Madhuri .066
Kamal -.07	Tarun -.05	Shruti -.46	Sachin .053
Nalini -.1	Sumit -.08	Pallavi -.53	Amol .011

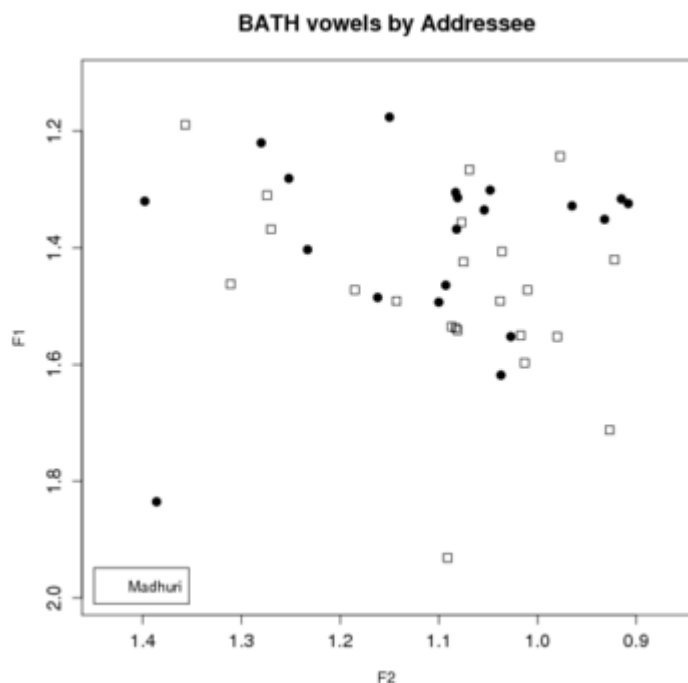
It is satisfying that four individuals (shaded) in the top 6 for F2 difference (our main criterion for convergence) are also in the top 6 for ED difference and the top 6 for pillai score: Ketan, Ashish, Amit and Monali. A further two participants, Tarun and Yogesh, are in the top 6 for F2 difference and for pillai score. Ketan, Monali and Yogesh, are also in the top six for F1 difference, which is more dramatic for Monali than her F2 difference. Monali is similar to, but not as extreme as Nalini, who has the greatest F1 difference (also giving her the highest pillai score), but the smallest F2 difference (Fig. 7.2.a). We will return to Nalini and Monali in section 9, and concentrate on individuals who seem to be fronting with the American Addressee. Of the top candidates for convergence only two are EXP (Ashish and Amit).

A clear pattern of convergence is illustrated by Ketan in Fig. 7.2.b. A good proportion of the BATH vowels in his American dialogue are fronted and raised, which is not the case in his Indian dialogue. Non-convergers can look like Amol (Fig. 7.2.c), who has quite central BATH vowels but no discernible difference for Addressee, and very little dispersion (he has the lowest pillai score). Other non-convergers have greater dispersion of tokens but still no discernible difference for Addressee, for example Madhuri in Fig. 7.2.d.

Fig 7.2. Panels a-d: BATH vowels for Nalini, Ketan, Amol and Madhuri (the American Addressee is indicated by dots, the Indian Addressee by squares)







One of our research questions was how demonstrated convergence, as in the case of Ketan, manifests in the dialogue, and which of three possible patterns of convergence it represents:

- 1) Prior knowledge of American English is activated by the priming, so that BATH tokens converge from the start of the dialogue and remain converged (usually at the lexeme level and sometimes at the level of the phonological variable)
- 2) Shadowing, where BATH tokens do not converge except where they are used immediately after the American interlocutor, and then return to “normal”
- 3) Learning, where BATH tokens gradually become more converged

To investigate this we used the HCRC maptask method of “mention” coding (Anderson et al 1991, Carletta et al 1997). Each token of a certain landmark is numbered according to its use in the dialogue by a participant (*mine shaft 1, mine shaft 2* etc). Mention coding was preferred to a measure of time elapsed, as the landmark/word types behaved quite differently and it was therefore safer to compare tokens in the first instance rather than types.

Fig. 7.3 (F1 and F2 means for all landmarks⁹) suggests that, in IndE as in other varieties, BATH vowels with following nasals are more likely to be raised and fronted, and in some cases, possibly peculiar to IndE, only raised (*advanced*). BATH vowels with following fricatives are typically back and open, although *class* and *cast* are more central. Following Consonant (nasal or fricative) is significant for F1 and F2 ($p < 0.000$), and for F2 there is even a significant interaction between Addressee and Following consonant ($p = 0.03$). Our Indian instruction-givers may be more struck by the fronting of the nasal version in AmE, and more likely to converge this.

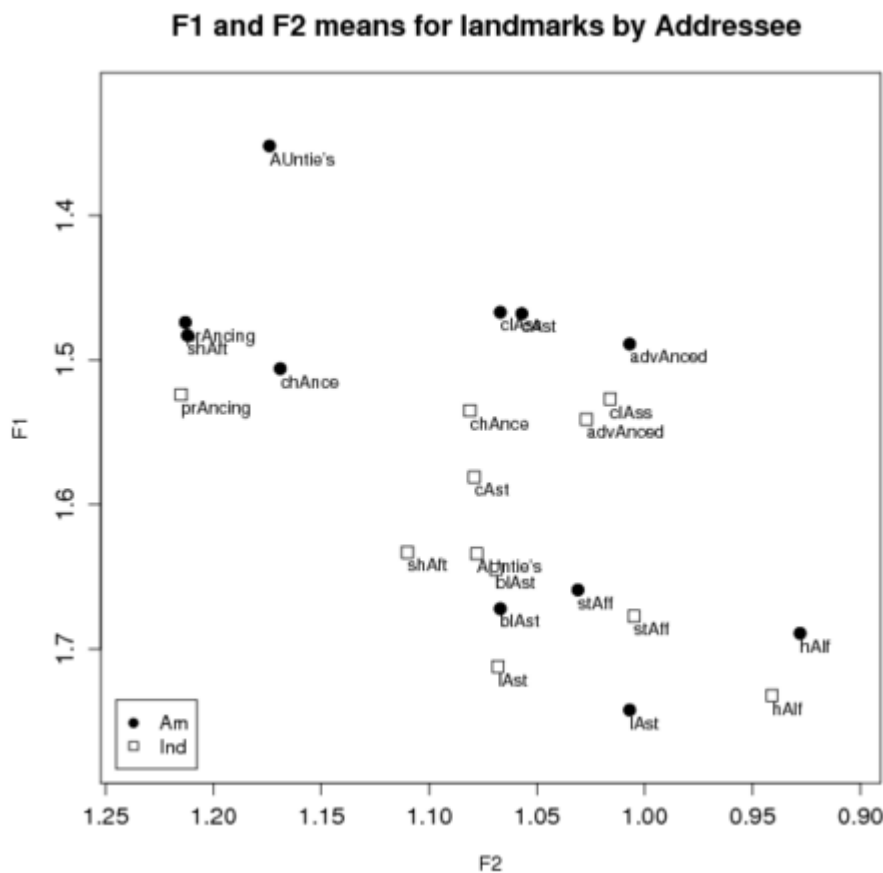
Word frequency has an overall effect on F1 and F2 ($p < 0.000$), which we think is due to the behavior of specific tokens (see below). There is no interaction between Frequency and Addressee, thus we cannot say with certainty that it is LF items that are being shadowed/converged (as suggested by Goldinger 1998).

The landmarks which vary the most according to Addressee Fig. 7.3 are: *auntie's café*, *mine shaft*, and *chance mountain*. For all three the tokens for the American Addressee

⁹ *Craft exhibition* was excluded as there were too few tokens.

are fronted and raised. *Great cast* shows only raising with the American Addressee. Interestingly, even though *last* is overall a more back vowel, the IndE mean for this is somewhat more central. *Prancing pony*, unusually, is fronted and raised for the Indian Addressee as well as the American Addressee, due to the behavior of four out of a possible eight speakers who had this landmark in their Indian dialogue. We think that this item is so rare that these speakers struggled to classify it in the BATH lexical set.

Fig. 7.3 F1 and F2 means for landmarks differentiated by Addressee (dots for American means and squares for Indian means)



Thus it is only in the case of certain landmarks that the BATH vowels some of our top convergers are consistently fronted with the American Addressee (Convergence pattern 1). This is the case for Ashish and also Yogesh for *chance* (Fig. 7.4). Ashish and Ketan are all consistently front for *shaft* (Fig. 7.5). Yogesh appears to be moving his tokens of *shaft* front. This is a possible case of pattern 3, but there are seldom sufficient tokens to conclusively identify pattern 3.

Fig 7.4. F1 and F2 means for *chance* with mention for Ketan, Ashish, and Yogesh. Each individual's last vowel for *staff* with the Indian Addressee is given as a contrast.

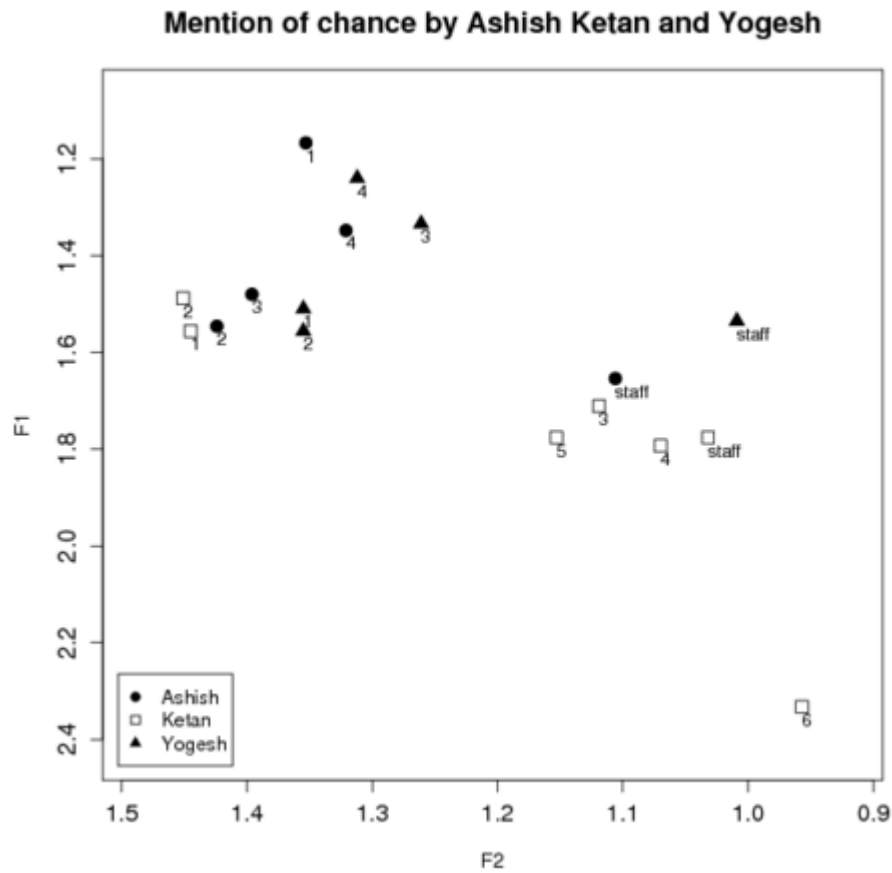
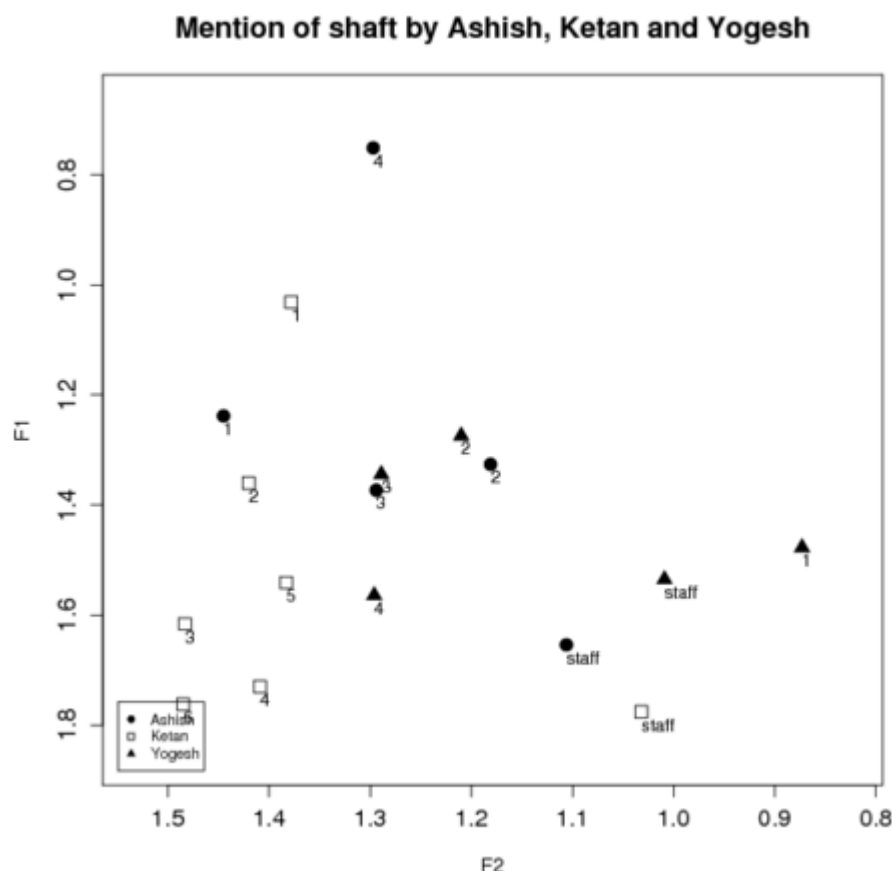


Fig 7.5. F1 and F2 means for *shaft* with mention for Ketan, Ashish, and Yogesh. Their last vowel of their Indian dialogue for *staff* is given as a contrast.



The tokens of *chance* for Ketan (Fig. 7.4.), another apparent converger, start out fronted and raised but then appear to move back. The priming has had some initial effect, but “worn off”. This behaviour is in fact quite common across the group and does not occur only in the top convergers. Shruti’s first mention of *prancing pony* with her American follower is fronted but her other three mentions are back regardless of the production of the word by her partner:

Shruti: And you need to pass in between the burning wood and the *prancing pony* (1).
Do you have? Both of the things on your map?

Follower: I have the *prancing pony* to my left, so the—

Shruti: Ok, so *prancing pony* (2), uh on the top of it you need to make a road.

What is apparent is that all the speakers demonstrated *some* degree of shadowing (pattern 2) in their American dialogue. Even Amol, who we saw earlier in Fig. 7.2.c appeared to be a solid non-converger, can be seen to be shadowing AmE *cast* in his second mention whereas his first mention and following five mentions of *cast* are back. The fronted second mention occurs immediately after the follower’s use of the token. The first three mentions in the context of the dialogue are shown here:

Follower: So can you describe to me where rehearsal room is
Is it Is it near advanced lesson at all
Amol: er no it is exactly in front of start er biology class

and in the right of *great cast* (1)
 Follower: So its below biology class
 Amol: yah
 Follower: okay and that's the rehearsal room
 Amol: because below biology class er
 Follower: And its right to the left
 Amol: er correct
 Follower: it's to the left of *great cast*
 Amol: left of *great cast* (2) okay
 Follower: left of
 Amol: er er yah
 Follower: and that's rehearsal room
 Amol: rehearsal room
 now you have reached to rehearsal room
 Follower: okay so its biology class rehearsal room
 Amol: yah yah
 er after that we will go to *great cast* (3)
 Follower: yup
 Amol: er that is another point of yours

It is the consistent fronting among a small group but shadowing among a larger group that explains the fronting of landmarks such as *cast*, *shaft*, and *chance*. There are even interesting cases of shadowing in other typically back word types, for instance, Sumit shadows his American interlocutor in the second mention of *half moon* (out of 5 mentions).

These shadowing phenomena are not apparent in the Indian dialogues. These may be characterised by some dispersion among the BATH vowel tokens, but there is less dramatic shifting between mentions. In section 9 these patterns of convergence are discussed in relation to the profiles of individual speakers.

8. Results: postvocalic /r/

The results for postvocalic /r/ identified according the methods described in section 6 are presented in Table 8.1, which gives a breakdown of types of /r/ for each Addressee:

Table 8.1 Types of /r/ by Addressee

Addressee	Approximant	Null	Tap	Trill	N
Am	92 (20%)	316 (72%)	22 (5%)	12 (3%)	442
Ind	94 (18%)	358 (70%)	47 (9%)	17 (3%)	516

As we would expect for participants with an English-medium education, the data for both Addressees is predominantly non-rhotic, with less occurrence of the more stigmatised tap/trill sound. Approximant /r/ occurs in similar proportion for both Addressees, which is not suggestive of convergence. On closer examination, most of the approximants are in the landmarks *smart/start/cart* (74%). It seems likely that [r] here is a real or apparent effect of a following retroflex /t/ in these words, and we see it in many non-landmark words with /r/ followed by /d/ or /t/ such as *downward(s)*, *upward(s)*, *pardon*, *apart*, *part(s)*, *particular*, *vertically*. We have therefore set these landmarks aside, and limited our observations to the remaining data.

Trills and taps, possibly because of retroflex /t/ and /d/, do not appear in *smart/start/cart*, but do appear in other landmarks including *paper*, *water*, *working*, *perimeter*, suggesting that the /r/ realisation of the LETTER lexical set described in Gargesh (2004: 997) and Nihalani et al (2004) is a tap/trill. Ketan (a Marathi L1 speaker) made this point in his interview claiming that “in the Western part of India we pronounce that /r/ in any word very prominently” and illustrated this by producing *power*, *shower*, and *tower* with a very obvious final trill.

Apart from *smart/start/cart*, approximant /r/ appears sparsely among the landmarks, as shown in Table 8.2. With the possible exception of *working* and *water*, we cannot say that the approximant is more likely to occur with an American Addressee.

Table 8.2. Occurrence of approximant postvocalic /r/ in landmarks apart from start/cart/smart

Landmark	Approximant /r/ Am Addressee	n	Approximant /r/ Ind Addressee	n
burning	4 (15%)	27	2 (6%)	32
girls	1 (2%)	44	2 (3%)	59
litterbin	0	19	0	35
paper	2 (5%)	39	1 (4%)	26
working	8 (18%)	44	3 (5%)	46
perimeter	1 (9%)	11	0	17
water	5 (12%)	40	1 (2%)	50
rehearsal	3 (10%)	30	0	46
here	6 (10%)	62	6 (10%)	58

Because we could not make use of a lot of the landmark data, we auditorily examined other possible environments with potential postvocalic /r/ in all the dialogues. Approximant /r/ occurs among the same small set of speakers who use it in the landmarks (Ashish, Nalini, Shruti and Sachin). They use approximant /r/ in words such as *more*, *mark*, *taller*, *corner*, *margin*, *further* and *first* predominantly but not exclusively in the American dialogues. This is only a handful of examples and so this remains a purely qualitative observation. Of this group of possible /r/ convergers, Ashish is our top vowel converger; the feature is also used by Nalini, who raised her BATH vowels very noticeably but did not front them; Shruti and Sachin are not prominent vowel convergers.

We cannot rule out L1 transfer in the use of approximant /r/ here. Although there was no apparent use of approximant /r/ among the two Tamil speakers in the study (Arjun and Yogesh), which might be expected (Wiltshire and Harnesberger 2006); approximant /r/ is observed along with tap/trill /r/ in all environments by some phonologists (Berkson 2012:60) for Marathi (the L1 of Ashish, Nalini and Shruti) and there is a retroflex /r/ which occurs word finally in Bengali (Sachin) (Ferguson and Chowdhury 1960).

Ashish once more is the striking case as not only does he have an approximant /r/ word-finally in *water* and *perimeter*, but he also has a flapped /t/ in these words. He has a distinctive AmE flap in the phrase “you got it” in his Am dialogue. This is the only case of flapping in the study besides one flapped token of *water* (Ravi). Flapping was otherwise not present in the data despite our inclusion of the *granny’s cottage* and *pottery studio* landmarks. Flapping, like postvocalic /r/ is explicitly taught in call centre training for AmE (Cowie 2010).

9. Factors involved in convergence

We have seen that Exposure as we have framed it in this study does not appear to have any effect on convergence in the vowel data. The data from the post-task questionnaires

designed to test the role of attitudes in accommodation is suggestive, but not appropriate for inclusion in a statistical model. For the first questionnaire, it was evident that participants were treating the 6-point likert scale (used to rate their respective interlocutors on success of the transaction, understandability, friendliness, politeness, co-operativeness, correctness of English, and pleasantness of English) as an ordinal scale, thus providing a relative assessment of their respective interlocutors. i.e. for some raters 5 was their highest score and for others it was 6. Furthermore, differences across the sixteen participants' ratings for this exercise were marginal.

Based on a composite score for the seven measures (a maximum of 42), five participants rated their American and Indian interlocutors exactly the same (Sachin, Monali, Ashish, Sumit, Shruti). A further five rated their American interlocutor better by 1 or 2 points (Kamal, Ravi, Pallavi, Amol, Amit) and some rated their American interlocutor better by between 3 and 5 points (Ketan, Arjun, Tarun, Yogesh). This marginal but widespread positive evaluation of the American partner fits with the considerable amount of low level shadowing that we have found across the whole cohort. It is true that those who rated their American interlocutor better by a wider margin are also more marked convergers, with the exception of Arjun. Yet notable convergers such as Ashish and Monali have rated their interlocutors the same. Only Nalini (who had a the greatest F1 difference but a small F2 difference) rated her Indian interlocutor better, and this by a considerable 12 points. We discuss these cases further below.

In the second post-task questionnaire participants were asked where they had previously travelled; where they wanted to live; what kind of English they thought they spoke; and what kind of English they would like their children to speak. Questions were open-ended, although the last two on varieties of English gave the options "American / British / Indian / International / Neutral / Other". We also asked whether participants which kinds of media they consumed in English, and which in Hindi and/or Marathi. This information, together with six interviews of rather diverse participants, has allowed us to identify emergent factors which we believe play a role in convergence. All six interviewees were from Pune or the surrounding area. Four demonstrated considerable convergence namely Ashish (EXP), Amit (EXP), Ketan (NOTEXP), and Tarun (NOTEXP). The other two Sumit (EXP) and Nalini (NOTEXP) are not convergers.

9.1 Social networks

All interviewees confirmed that they had no contact with Americans outside of work, with the exception of Ashish. Unusually, Ashish does not live with his family, and his friendship circle outside of work in Pune includes Americans, Filipinos and Britons. He says "most of my friends are non-Indians". He worries that he is "losing touch" with the local language, Marathi. Of the other interviewees only Ketan and Sumit report using English with friends and family. Ketan observes that his spoken English is markedly better than his childhood friends who are more likely to read it than speak it; and Sumit describes how he uses a mix of Marathi, Hindi and English with his friends, typical of urban middle class Indians (Si 2010). Thus for Sumit, English is not only linked to his work identity, but also strongly linked to a local identity.

9.2 Travel to the US:

It is not unusual for IT workers to travel to the US and even spend a few months at a time working there (Upadhyia and Vasavi 2008:21). Of our participants three had travelled to the

US (Ashish, Sumit and Yogesh). In his interview Ashish described having made at least three trips to the US. This may seem sufficient explanation for his extensive convergence, but it is interesting to contrast him to Sumit, who spent 9 months working in Philadelphia, yet he does not demonstrate much convergence at all. It seems that in both cases socialising outside of work (see 9.1) has more effect on convergence.

9. 3. Ideology of language and accent:

Our findings contrast with Sumit's own view of himself: in the US office he had to work hard to make himself understood as "not a single Indian was there". He believes that his English was influenced by his stay, and he was the only participant to describe his own variety as AmE. Ashish in contrast, asserted that his accent is "100% Indian" and explicitly stated that he did not believe that he should adjust his accent to his interlocutor. Nadeem relates the story of a high status Indian executive who worked in the US for many years and is repeatedly asked why he does not have an American accent. His response is "if a cat tries to bark it doesn't become a dog!" (2011:67). It seems that despite their conscious statements, Sumit is more like the executive in the story and Ashish is less committed to a local identity.

Unlike many of their colleagues, neither Sumit nor Ashish rated their American partner better than their Indian partner. Their greater experience of interacting with speakers of AmE may have meant the task was not a novelty for them. It may mean that they have higher status in the Pune office, and in relation to American colleagues. They are also likely to be more sensitive of the implications of the question. Sumit admitted in his interview however that he felt more comfortable with his Indian partner.

Ashish, along with Amol, Monali, Nalini, Ravi, and Madhuri is part of subset who attended more elite secondary schools¹⁰, In her interviewees with call centre workers Mirchandani's finds that those who are "convent-educated and from urban areas" argue that "good English" can only be acquired from many years of the right schooling, and not as a skill later in life. (Mirchandani 2012: 47) We further speculate that this kind of background might be associated with a greater investment in an elite Indian accent, or its earlier equivalent, a British accent, demonstrated either through that individual's practice and/or through his or her discourse around accent. We do not have evidence to make such claims, but it is worth noting that among this group Monali is the only participant who described her accent as British.

Ketan's ideology around his use of accent is more in line with the extensive convergence that he demonstrates. He places a value on his ability to adopt accents when required, and has in fact worked as an "accent trainer" (Cowie 2007, 2010). His position is: "I can speak American English if I want to". This narrative suggests that Ketan has pronunciation "talent", in addition to proficiency (Lewandowski et al 2007), which can apply to accents in the L1 and native-like control of the L2. Ketan, Amit and Tarun all described themselves as good at learning languages. Amit was learning Japanese and even writing a blog on the subject. He thought changing one's accent to speak to an American made sense, but was very clear that one should not "copy" an American accent when speaking to fellow

¹⁰ This distinction between elite educated and less elite English medium educated is implicated in the distribution of certain sociolinguistic variables in Sahgal and Agnihotri (1988). A convent school is a private school which is "administered currently or previously by Christian organizations" (La Dousa, 2005: 463). Although participants were not asked to indicate this on their questionnaire, the status of their school could be ascertained from the name (e.g. "Sacred Heart Convent High School" or "St. Mary's English High School"). The classification of particular schools as "Convent" and "Non-convent" was also verified by a third party, who is a native of Pune.

Indians. This much derided practice has been noted among youth returning from short visits to the US (Chand 2009: 412).

From their comments it was evident that Ravi and Nalini (both NEXP) assumed that the task required them to change the way they spoke. Ravi said (in his questionnaire) that “reading out the words from my American partner helped me a lot to improve my pronunciation” and Nalini explained in her interview that she needed to concentrate “on the partner’s accent to make sure I get it right”. She added that “while talking to the Indian partner, I spoke a little more and concentrated on the task more than the language. The comfort level was the same as that while talking in my mother tongue”. It is not clear if this is a reference to perception or production. Recall that Nalini is the puzzling case of someone who is clearly adjusting their vowels, but not in the direction we would expect for convergence. She also has some very limited use of approximant /r/. Thus, as she says herself, it may be that she has not “got it right”. This anxiety may be the cause of her strikingly negative assessment of her American interlocutor, or vice versa.

9.4 Media:

All participants apart from Ashish reported watching film and TV in other languages beside English (mostly Hindi and Marathi), although half reported reading newspapers and novels in English exclusively. In their interviews both Ashish and Ketan described a preference for American movies with Ketan remarking how he “identified” with AmE in films. For both of these participants, we have noted that AmE plays a role in their lives outside of their immediate work context, and this may go together with a consumption of American media.

9.5 Future aims to travel or migrate:

In answer to the question of whether they would like to live outside of India only Nalini, Vella, Mahi and Karamjeet said definitively not. Others gave the US, the UK or both as answers. Interestingly, Ketan (a converger) and Sumit (a non-converger) were more interested in spending time in the UK rather than the US (but not permanently). Sumit wanted to stop working and travel widely, to “go experience”. Ashish gave various options in his questionnaire, but revealed in his interview that he was applying to emigrate to Canada. When he talked about returning to India it was in the context of the film *Swades* (Gowariker and Screwvala 2004), which features a Non-Resident Indian (NRI) from the US returning to India to renegotiate his identity as an Indian.

10. Conclusion

This study has demonstrated empirically what has been known anecdotally for some time now: workers providing outsourced voice services show some convergence towards the accents of their customers, even though the customer accent may not be normative for their country. We have added some important detail to this finding. Our approach to investigating accommodation has meant that we have been able to detect convergence at a token level, at a lexical level, and at the more profound level of the sociolinguistic variable. The first practice is the most common, and demonstrated to varying degrees among almost all of our participants. This low level convergence is not driven by the time an agent spends speaking to Americans on the telephone at work, but rather on an overwhelmingly positive disposition towards the American interlocutor and the task. This phenomenon may explain much of the

partiality of “call centre accents” (Cowie 2010:39), where the customer accent is seldom adopted in its entirety. It is even more likely to play a role in highly routinized call centre interactions which are heavily dependent on scripts.

Convergence at the level of the lexeme seems to be less common, and can be attributed not to any single factor but to a complex interplay of factors. Exposure plays a role, but as we saw in the contrast of Sumit and Ashish exposure cannot account for the adoption of an accent. Exposure has to be accompanied by an American-oriented identity outside of work, possibly through social networking (in the case of Ashish) or through acting (in the case of Ketan). Clearly we have much more to do in terms of collecting fine-grained and measurable information on not just agents’ proficiency, experience and local status, but their attitudes towards Americans, their social networks, and individual pronunciation “talent”. These should not however replace detailed post-task interviews as these have proved invaluable in helping us understand the behaviour of individuals. Convergence at the level of the phonological variable (evidence in all the lexemes) was not truly demonstrated in this study.

In this study we measured convergence in two variables, and found different patterns of convergence for the BATH vowel and very limited or no convergence for postvocalic /r/. This is due in part to the much more graded measure we used for the vowel, which enables us to say much more than the binary measure we used for postvocalic /r/. Nevertheless the striking overall lack of convergence to AmE /r/ may be due to its greater salience and heightened place in speakers’ awareness. For most of our participants, convergence to the AmE BATH vowel in varying degrees was something they were comfortable with. Phonological variables that are below the level of consciousness promise to be a fruitful area for research on convergence in this 21st century form of dialect contact.

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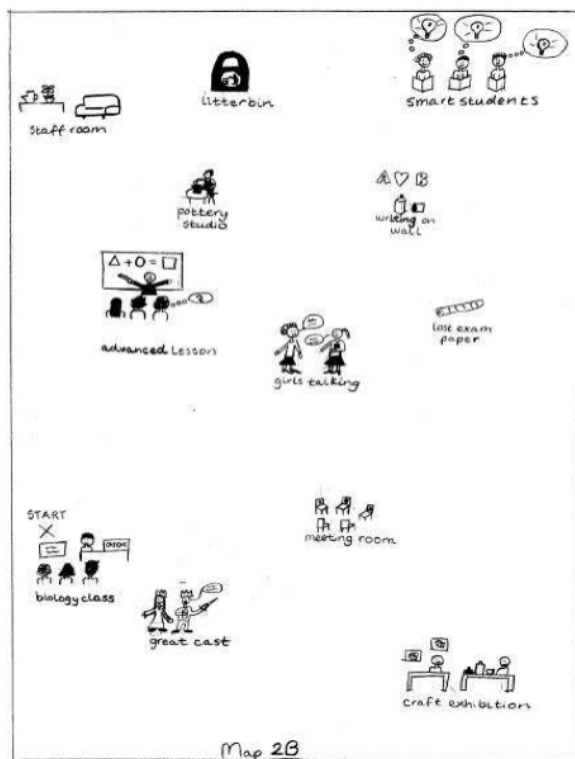
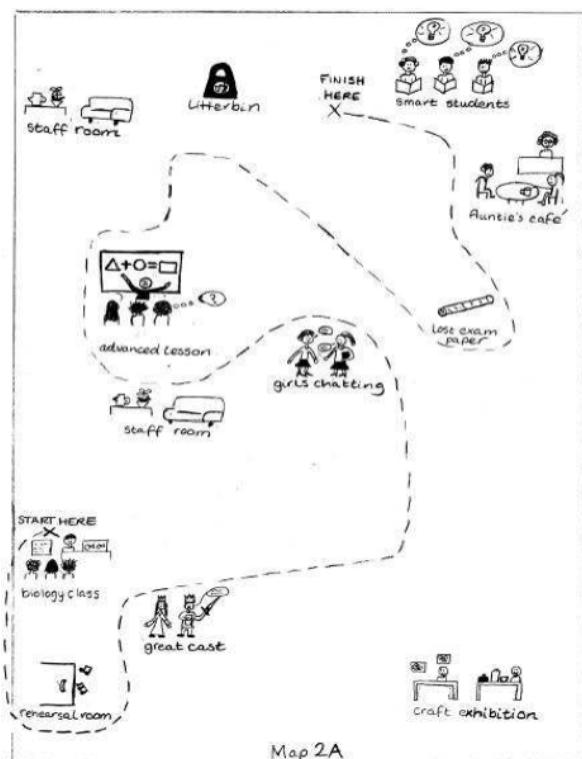
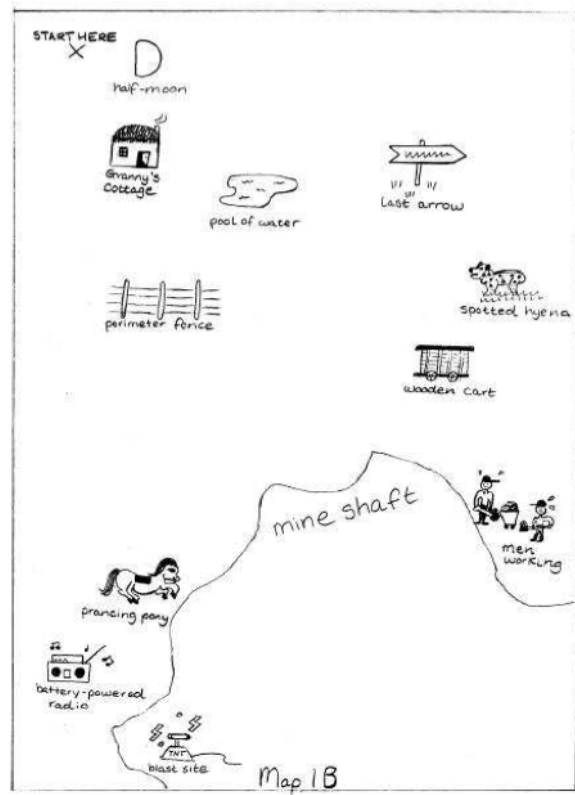
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Appendix



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